PORSCHE (Cont.)

928 (Rear) – Rear toe-in adjustments are made at eccentric bolt located on front control arm bushing.

TORSION BAR ADJUSTMENT

911SC (Rear) – Place torsion bar into transverse tube with inner end splines first. Slip radius arm onto outer end splines of torsion bar. Place leveling tool (VW 261) on lower edge of door opening and adjust level so bubble is in center of glass. Check adjustment (degrees) of free hanging radius arm with same leveling tool. If not to specifications, adjust by turning torsion bar and radius arm in opposite directions. Adjustment of both radius arms must each equal $36\frac{3}{4}° \pm \frac{1}{4}°$.

RENAULT

ADJUSTMENT

TIRE INFLATION (COLD)

Before attempting to check or adjust wheel alignment, make sure tires are properly inflated. Refer to manufacturer's specifications given in owner's manual.

RIDING HEIGHT

NOTE – *Riding height should be set with fuel tank full and without additional weight in vehicle.*

Front – Checking or adjusting riding height can only be performed with vehicle on level surface. To calculate front riding height, measure distance from ground to center of wheel ("H_1" in *Fig. 1*) and distance from ground to front side member ("H_2" in *Fig. 1*) in line with wheel centers. Then subtract the measurements. Difference should be $1\frac{7}{8}$-$2\frac{5}{8}$" (48-68 mm), with the variation between right and left sides not to exceed $\frac{3}{8}$" (10 mm). To adjust front riding height, mark position of torsion bar in bracket, then remove and rotate torsion bar until correct riding height is obtained.

Rear – Rear riding height is calculated by measuring from ground to center of wheel ("H_4" in *Fig. 1*) and to punched out hole in rear side member (H_5" in *Fig. 1*). The difference in the measurements should be $\frac{1}{16}$-$\frac{9}{16}$" (1.5-14 mm) with variation between right and left sides not to exceed $\frac{3}{8}$" (10 mm). Adjust rear riding height in same manner as front riding height.

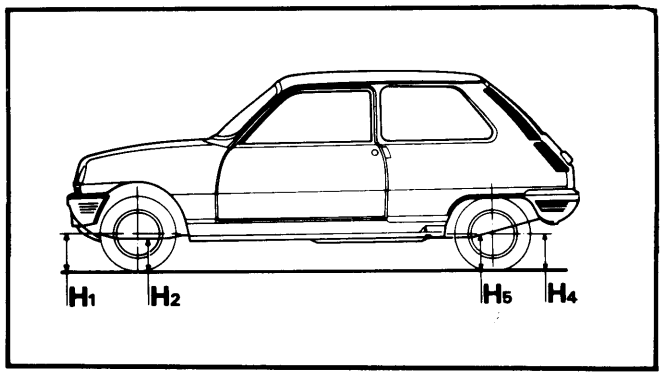

Fig. 1 Riding Height Measurement Points

CASTER

NOTE – *Caster is not adjustable on 18i models.*

Vehicle riding height must be calculated before adjusting caster. Caster angle corresponds to the difference in front and rear riding heights between "H_2" and "H_5" as shown in *Fig. 1*. After calculating the difference, refer to Caster Angle table for correct caster angle. To adjust caster angle, loosen both lower control arm mounting bolts and add or remove shims to adjust caster to specifications. The addition or removal of 1 shim equals about 1° change in caster angle.

NOTE – *Never use more than 2 shims between bushing and side member. Always check steering box height after caster adjustment.*

Le Car Caster Angle Specifications

Difference Between "H_2" & "H_5"	Caster Angle
$1\frac{9}{16}$" (40 mm)	$12\frac{1}{2}°$
$2\frac{3}{8}$" (60 mm)	12°
$3\frac{3}{16}$" (80 mm)	$11\frac{1}{2}°$
$3\frac{15}{16}$" (100 mm)	11°
$4\frac{3}{4}$" (120 mm)	$10\frac{1}{2}°$
$5\frac{1}{2}$" (140 mm)	10°

CAMBER

NOTE – *Camber is not adjustable on 18i models.*

Camber angle is not adjustable. If not within specifications, inspect front suspension for wear or damage and repair or replace components as necessary.

TOE-IN

If toe-in is not to specifications, disconnect steering arm at rack end. Loosen lock nut on steering end fitting. To increase toe-in, unscrew end fitting. To decrease, screw in fitting. Tighten lock nut and connect steering arm. Recheck toe-in.

SAAB

ADJUSTMENT

TIRE INFLATION (COLD)

Before attempting to check or adjust wheel alignment, make sure tires are properly inflated. Refer to manufacturer's specifications given in owner's manual.

CASTER

To adjust caster, add or remove shims under upper control arm bushing brackets. Changing shims from front to rear bracket increases caster angle. Moving shims from rear to front decreases caster angle.

NOTE – *Same shim thicknesses removed from front must be placed under rear and vice versa. Change in caster also affects camber.*

CAMBER

To adjust camber, add or remove shims under upper control arm bushing brackets. Increasing shims under both brackets

SAAB (Cont.)

reduces camber angle and removing shims under both increases camber.

NOTE – *Always add or remove same thickness of shims at front and rear or caster angle will be affected.*

TOE-IN

With wheels in straight-ahead position, loosen steering link (tie rod) lock nut and turn adjustable sleeve until correct toe-in is obtained. Tighten lock nuts and recheck toe-in.

NOTE – *After adjustment of toe-in, measurement "A" (Fig. 1) of tie rod must not exceed 1.0" (25 mm) or 1.02" (26 mm) for power steering models. For tie rods opposite each other, the difference between measurements "A" must not exceed .08" (2 mm).*

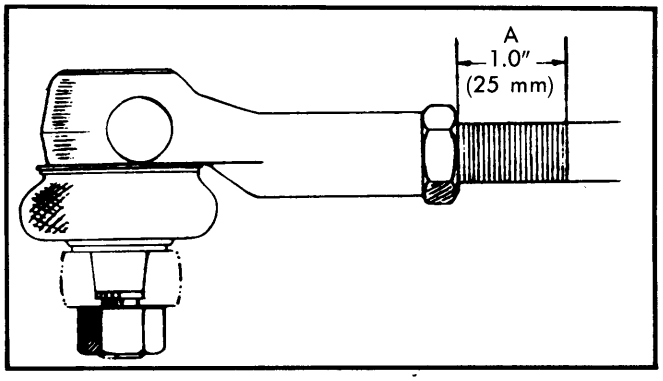

Fig. 1 View Showing Tie Rod Length Measurement

SUBARU

ADJUSTMENT

TIRE INFLATION (COLD)

Before attempting to check or adjust wheel alignment, make sure tires are properly inflated. Refer to manufacturer's specifications given in owner's manual.

RIDING HEIGHT

Front (All Models) – Place vehicle on level surface. Measure distance between ground and front end of transverse link attaching bolt. Adjust clearance by turning nuts (at same time) on strut until specified height is obtained. See *Riding Height Specifications table.*

Rear (4-WD) – Place vehicle on level surface. Measure the distance between ground and center of outer end face of torsion bar on BRAT and between ground and lowest point of crossmember pipe on all others. Adjust clearance by turning adjusting bolt clockwise to increase riding height and counterclockwise to decrease height. See *Riding Height Specifications chart.*

NOTE – *Adjusting bolt is accessible through service hole located in vehicle floor.*

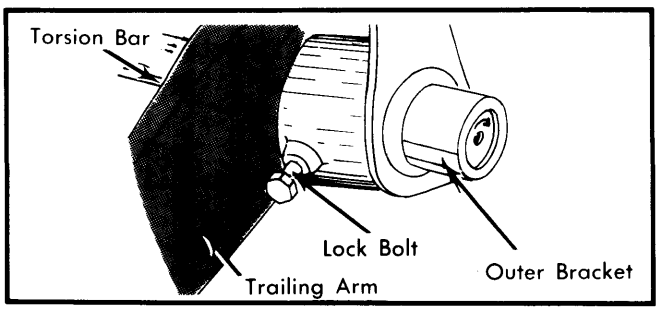

Fig. 1 Installed View of Torsion Bar Outer End Attachment

Rear (2-WD) – **1)** Riding height is adjusted by changing the angle between trailing arm center line and markings on outer bracket. See *Fig. 1.* The trailing arm and outer bracket have full serrations around the torsion bar mounting hole, while torsion bar has 1 missing serration, thus allowing torsion bar to be inserted at any angle.

2) To increase riding height, turn outer end and inner end of torsion bar in direction opposite to cast-in arrow on outer end of bar. Height changes .20" (5 mm) with each shift in serration.

3) Initially set vehicle rear riding height by inserting torsion bar with its missing serrations aligned with markings on outer bracket surface and trailing arm inner surface. This should equal the approximate riding height. See *Riding Height Specifications chart.*

4) Measure riding height from center of trailing arm bushing to ground and determine numbers of teeth to be shifted on inner and/or outer serrations.

NOTE – *Vehicle must be in unloaded condition.*

5) At top of shock absorber, remove bolt attaching shock to body. Raise rear of vehicle and remove wheel. Remove lock bolt of outer bushing. Remove 3 bolts connecting outer and inner arms with brake drum supported by a jack to prevent brake hose damage.

6) Place alignment mark on outer bushing, crossmember and torsion bar for reassembly reference. Measure vertical distance between end of outer arm and vehicle body. Pull out outer arm and torsion bar until inner serration is completely disengaged.

Riding Height Specifications

Application	Front In. (mm)	Rear In. (mm)
1600 & 1800 (2-WD)		
Station Wagon	9.65-10.63 (245-270)	11.02-11.81 (280-300)
All Others	9.45-10.43 (240-265)	10.24-11.02 (260-280)
1600 & 1800 (4-WD)		
Hatchback	10.43-11.42 (265-290)	12.60-13.39 (320-340)
Station Wagon	10.63-11.61 (270-295)	13.19-13.98 (335-355)
BRAT	9.84-10.83 (250-275)	13.58-14.37 (345-365)